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# Training an Agile Acquisition Workforce to Combat Emerging Threats

**Amanda Swanson Goff**—joined The Pulse in 2022 as the Director of Research and Analysis. Amanda received her Bachelor's in Linguistics from the University of Kansas (KU) and her Master of Public Policy from George Washington University (GWU). In May of 2024, she will graduate from Vanderbilt University with a Doctor of Education in Organizational Learning. She brings 6+ years of experience in project management, data analytics, and stakeholder engagement. Amanda is especially adept at using publicly-available federal spending data to inform policy work and identify key trends impacting the GovCon industry.

## Abstract

The Department of Defense (DoD) current source selection methods are at an increased risk of experiencing sustained bid protests. During source selections, the government frequently contradicts itself between its advertised stated order of importance for acquisition evaluation criteria (pre-award) and its actual choice behavior during source selections (Butler, 2014). This paper provides a summation of research, conducted from 2021 to 2022, that explored the following research objectives: 1) Determine the degree of disconnect between stated preferences during pre-award acquisition phase and actual choice behavior in defense acquisition source selections, 2) develop a deep understanding of quality attributes in evaluating logistics-based service acquisitions, 3) provide a Choice-Based Conjoint (CBC) framework that the DoD could utilize to enhance source selection criteria development in both logistics and further categories of government spending. The research utilized methods such as interviews and spend analysis techniques to identify quality attributes of logistics-based acquisitions that would best discriminate as evaluation factors for award. Later, these attributes were used to develop a CBC exercise that enabled us to calculate attribute utilities and relative importance for each attribute. The summarized research in this paper provides a way forward to empirically deduce the relative importance for source selection evaluation factors, potentially reducing bid protest occurrences in future source selections.

## Introduction

In FY22 alone, the Department of Defense (DoD) spent nearly \$420 billion on contracted products and services to support mission needs around the globe. Procurement professionals executed contracts for everything from janitorial services to major weapons systems. However, regardless of size and scope, the procurement process was often slow and cumbersome. Contract execution from solicitation to award is taking months, and in some cases, years. Resultantly, the United States will not be able to keep pace with evolving global threats.

Particularly as the DoD shifts its focus from the conflict in Afghanistan to near-peer threats in China and Russia, the Department's ability to quickly acquire emerging technology will be paramount to its success. This will require working with non-traditional contractors using Other Transactions Authority (OTAs), Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) grants, and lesser-known authorities like DoD Section 2373. Successful implementation of more flexible procurement authorities will require that procurement professionals across the DoD are well-trained and empowered to make decisions with due speed. Achieving this level of competency among the Department's procurement workforce necessitates a new approach to training that employs the most effective techniques for maximizing knowledge retention.



## The DoD's Acquisition Workforce

As of September 2022, the DoD employed 41,374 contracting professionals as classified under the Office of Personnel Management's (OPM) 1102 occupation code. This represents just 1.8% growth in the Department's acquisition workforce since September 2021. Over the same period, the DoD's contract obligations grew 7.38%.

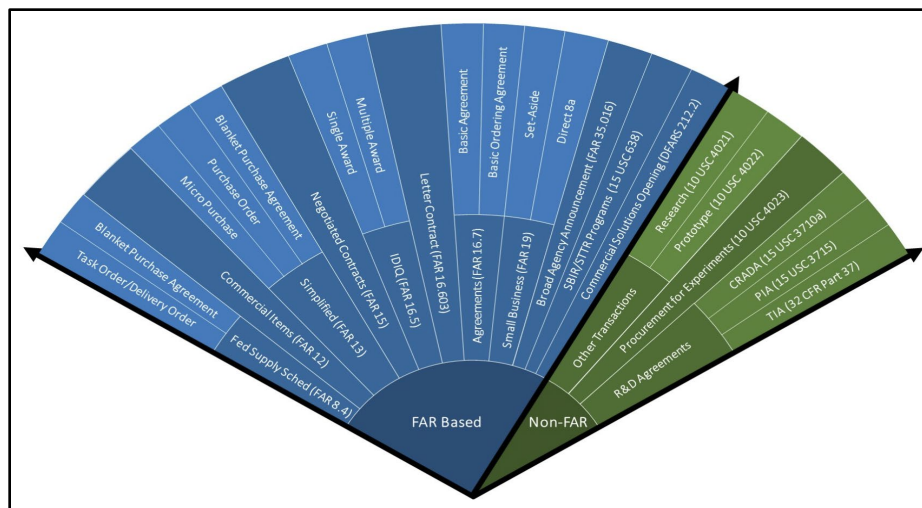
Fiscal Year	Total Contract Obligations	Obligation Growth	Total 1102 Workforce	Workforce Growth
2018	\$369,977,711,948.32	-	38,226	-
2019	\$396,698,449,057.20	7.22%	39,388	3.04%
2020	\$429,828,139,793.80	8.35%	39,904	1.31%
2021	\$390,852,687,172.09	-9.07%	40,619	1.79%
2022	\$419,693,725,077.08	7.38%	41,374	1.86%

Data over the last five fiscal years indicate a considerable gap between growth in the Department's contract obligations and the number of contracting professionals available to manage those contracts. The growing burden on contracting professionals necessitates effective training that empowers them to be efficient and agile in their work. However, the Department continually fails to empower contracting professionals to leverage flexible contracting authorities that would improve access to critical and emerging technologies.

Given existing workforce recruitment and retention challenges across the federal enterprise, the burden on individual contracting professionals is likely to worsen. Over reliance on cumbersome, traditional contracting methodologies is unsustainable—both for the professionals executing DoD contracts and the service members who rely on the products and services being purchased.

## What Alternative Acquisition Procedures are Available to DoD Procurement Professionals?

According to the Defense Acquisition University (DAU), the DoD has 17 different statutory authorities that may be leveraged in the procurement of goods and services. Six of these authorities exist outside the constraints of the Federal Acquisition Regulation (FAR).



Well-known alternative contracting methods include SBIR and STTR grants, as well as OTAs. In FY19 alone, the DoD obligated \$1.7 billion in SBIR and STTR grants.<sup>1</sup> The Department obligated an additional \$7.4 billion through OTAs. Although these two contracting methodologies comprised only 2% of the DoD's contract obligations in FY19, they are well known in government and industry.

Commonly, SBIR/STTR grants as well as OTAs and other non-traditional contracting methods are used for research and development of emerging technologies. Often, the Department faces significant barriers to procuring these technologies once development is complete.

DoD Section 2373 (USC §4023), Procurement for Experimental Purposes, provides a crucial opportunity for the Department to procure and test the effectiveness of these new technologies. The authority provided therein enables the DoD to put the equipment directly in the hands of service members, allowing for expedited evaluation of its usefulness in meeting mission needs.

Section 2373 is just one example of how alternative contracting authorities may be leveraged to better access the latest and greatest in warfighting technology. But unfortunately, most contracting professionals across the DoD seem unaware of or unwilling to use these additional authorities. Ultimately, empowering contracting professionals to think creatively requires more frequent and higher quality training in how to use alternative authorities correctly and strategically.

## **Strategies for Designing Effective Training**

Decades of research in cognitive psychology indicate that designing effective training hinges on four things: the right length, the right timing, the right structure, and the right level of engagement. In the case that the Department continues to opt for internal training design and execution through the DAU, it is crucial that DoD officials are aware of and make use of these tenets to maximize knowledge retention and facilitate knowledge application by contracting professionals.

### **Selecting the Right Training Length**

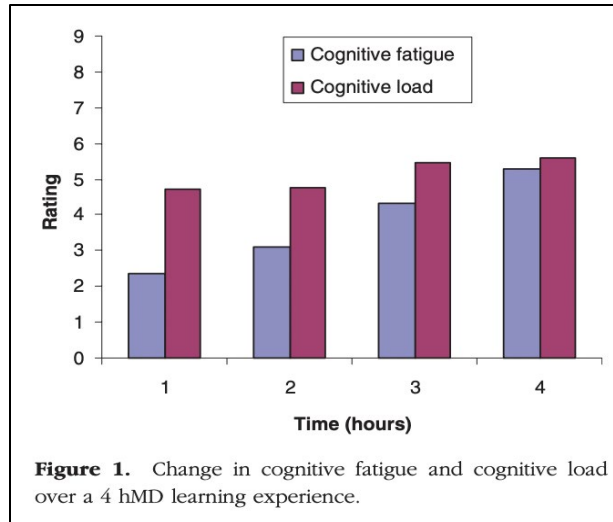
Traditionally, training is often conducted over two or three days wherein participants spend upwards of eight hours per day receiving instruction. Simply, the research does not support this.

Studies have shown that the human brain cannot effectively maintain focus for more than 60 minutes at a time. In a 2010 study (Raman et al., 2010), researchers found that "over time, fatigue increases with an increase in cognitive load." In simple terms, as learners are exposed to more information, their brains get "tired." This implies diminishing returns over the course of the day as participants continue receiving information that they are unable to process and retain.

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<sup>1</sup> Retrieved from [https://www.sbir.gov/awards/annual-reports?program=STTR&abbr%5B%5D=DOD&view\\_by=Year](https://www.sbir.gov/awards/annual-reports?program=STTR&abbr%5B%5D=DOD&view_by=Year)





Effectively training DoD contracting professionals will require a fundamental shift in how the federal government thinks about human capital and professional development.

### Proper Spacing Between Training Sessions

Too often, training is conducted once annually during slower periods for the business. The first quarter of the fiscal year would represent one such period, wherein the prohibition on new starts included in continuing resolutions brings contracting activities to a halt. However, psychological research indicates a need for more frequent instruction. Ultimately, training that is conducted too close together or too far apart results in poor information retention.

Ideal minimum spacing between learning sessions covering the same kind of content is 12 hours (Kornmeier et al., 2022). Further, some studies have demonstrated better long term retention of information when learning is spaced by one month or more.

The new Federal Acquisition Certification in Contracting (FAC-C) structure released by the Office of Federal Procurement Policy (OFPP) in January 2023 is a step in the right direction (OFPP, 2023). Among other structural changes, the new certification includes an increased focus on continuous learning (CLE).

Certification holders must now complete 100 hours of additional coursework every two years, an increase from the previously required 80 hours. Even so, OFPP does not require specific subjects to be covered as part of that continuing education. Without clear guidance from DoD officials as to how contracting professionals may meet CLE requirements, the Department will miss out on a critical opportunity to ensure its acquisition workforce is up to date on the most current procurement practices and authorities available to them.

Further, OFPP guidance does not include requirements for spacing out CLE hours. As a result, there is nothing that prevents Department leadership from insisting that all 100 CLE hours be completed in a short period of time, eliminating the value of spaced learning and likely resulting in hours-long training sessions. Ultimately both results greatly diminish the value of continuing education.



## Implementing Retrieval Practice

Encouraging participants to recall information they've already learned is another crucial component of effective training design. A 2012 study (Karpicke, 2012) found that the use of repeated retrieval practice was as much as four times more effective than studying the information one time.

Often, retrieval practice is assumed to be a "pop quiz" of sorts. However, retrieval practice simply implies an opportunity to recall information that was presented previously. Facilitators may consider Dr. Pooja Agarwal's "Two Things" Methodology, wherein learners are asked to write down two things that come to mind in response to a prompt.<sup>2</sup>

Example prompts include:

- Write down two questions you have related to the previous session's material.
- What are your two biggest takeaways from the previous session?
- Can you find two connections between today's material and yesterday's?

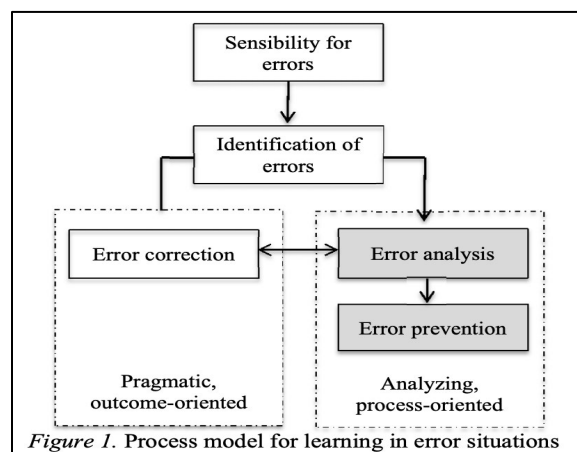
The Department may also consider applied learning strategies, wherein learners are asked to utilize information from a previous session to address a problem identified in a case study. Any such activity that prompts learners to recall and apply information will increase knowledge retention and contribute to a more ready acquisition workforce.

## Encouraging Active Participation

Finally, effective training requires actively engaged participants. This includes both trainers and trainees. Simply sitting in a classroom where information is being disseminated does not ensure comprehension and retention.

In particular, classroom studies indicate that encouraging errors in the learning process and actively responding to them in a positive but instructive way can contribute to increased learning. This is especially important for contracting professionals who are widely considered to be mistake-avoidant.

Practical applications of a session's material may occur in the large group or in smaller breakout sessions, but should always include feedback from the facilitator. The figure included below illustrates how the feedback cycle contributes to the learning process, ultimately resulting in increased error prevention (Rach et al, 2013).



<sup>2</sup> Retrieved from <https://www.retrievalpractice.org/strategies/2018/two-things>.

Further, all attendees should be expected to participate regardless of title or experience. Active participation from senior professionals can encourage younger, less experienced participants to engage with the group more meaningfully.

As the DoD acquisition workforce continues to age, engagement from experienced professionals will become increasingly important in the preservation of institutional knowledge. The inclusion and active participation of these individuals is paramount in creating a more nuanced understanding of the procurement process among younger professionals.

## Conclusion

The Federal procurement process is slow and cumbersome, operating in stark contrast to the rapidly evolving needs of the Department of Defense. To maintain readiness and address near-peer threats from Russia and China, DoD contracting professionals must operate with greater agility to access cutting edge technologies. And in order to do so, they must be well trained and feel empowered to leverage alternative procurement authorities. That is not currently the case.

Simply, the existing training infrastructure at the DoD is not well-suited to develop an agile acquisition workforce. The Department must shift from the traditional, certification-based training system to one that focuses on shorter, more frequent training that addresses new procurement processes and lesser known contracting authorities. Ultimately, the Department's failure to leverage all available contracting methodologies will limit its ability to equip the warfighter of the future. The antiquated training infrastructure in use at the DoD is not sufficient to produce well trained contracting officers, and until corrected, the DoD's procurement workforce will be unable to acquire critical technologies with appropriate speed—thus leaving the country vulnerable.

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NAVAL POSTGRADUATE SCHOOL  
555 DYER ROAD, INGERSOLL HALL  
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